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TAXONOMIC AND NOMENCLATORIAL NOTES ON CARIBBEAN *TROPICUS* PACHECO (COLEOPTERA: HETEROCERIDAE)

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Abstract.—The West Indian species, *Heterocerus lituratus* Kiesenwetter, *H. pumilio* Kiesenwetter, and *H. bilineatus* Chevrolat are transferred from "validez incierta" to the genus *Tropicus* Pacheco. *H. bilineatus* and *H. lituratus* are considered valid species, with *H. pumilio* and *Tropicus cithara* Pacheco placed as junior synonyms of *T. lituratus*. *Tropicus* ***ladonnae*** new species is described from Trinidad. These species are diagnosed, integrated with Pacheco's keys, and a discussion of distribution and taxonomic history given. Male genitalia and mandibles of *T. bilineatus* and *T. ladonnae* are illustrated.

The genus *Tropicus* was erected for 13 species from temperate and tropical America by Pacheco in his revision of the Heteroceridae of the Americas (1964). In that same paper, 15 species of American *Heterocerus* were placed "validez incierta" due to inadequate descriptions and unavailable types. Types of 2 West Indian Kiesenwetter species so placed have been examined through the courtesy of Dr. M. Uhlig of the Humboldt Museum, and found to belong to *Tropicus*. Material provided by Dr. P. Spangler of the U.S. National Museum has allowed us to place one of Chevrolat's Cuban species in this genus. We also take this opportunity to describe a new species of *Tropicus* from Trinidad.

Material from this study is deposited in the following collections: American Museum of Natural History, New York (AMNH); British Museum (Natural History), London (BMNH); Centro de Investigaciones Agricolas del Noroeste, Ciudad Obregón (CIAN); California Academy of Sciences, San Francisco (CASC); Canadian National Collection of Insects, Ottawa (CNCI); College of the Virgin Islands, Cooperative Extension Service, St. Croix (CVIX); Field Museum of Natural History, Chicago (FMNH); Institute Royal des Sciences Naturelles de Belgique, Bruxelles (ISNB); Instituto de Zoología, Academia de Ciencas de Cuba, La Habana (IZAC); J. B. Stribling, Columbus (JBSC); M. A. Ivie, Columbus (MAIC); Museum of Comparative Zoology, Cambridge (MCZC); Muséum National d'Histoire Naturelle, Paris (MNHP); National Museum of Natural History, Washington (NMNH); Department of Entomology, Ohio State University, Columbus (OSUC); Richard S. Miller, Columbus (RSMC); Stovall Museum, University of Oklahoma, Norman (SMSH); Department of Entomology, University of California, Davis (UCDC); University of the West Indies, St. Augustine, Trinidad (UWIT); Zoological Institute, Academy of Sciences, Leningrad (ZILC); Zoologisches Museum, Humboldt-Universität, Berlin (ZMHB); Zoologisck Museum, Universitets, Kø-

benhavn (ZMUK); Museu de Zoologia, Universidade de São Paulo, São Paulo (ZUSP).

The following species are placed in *Tropicus,* as defined by Pacheco (1964). They share with *Tropicus* characters of the male mandible and aedeagus, as well as the maculation of the elytra and the 9-segmented antennae.

Tropicus lituratus (Kiesenwetter) New Combination

Heterocerus lituratus Kiesenwetter 1843: 221, t. 3, f. 17; Zaitzev 1910: 59; Leng and Mutchler 1914: 424; Blackwelder 1944: 270.

Heterocerus pumilio Kiesenwetter 1851: 296; Zaitzev 1910: 61; Leng and Mutchler 1914: 424; Blackwelder 1944: 270. New Synonymy.

Tropicus cithara Pacheco 1964: 109, figs. 376–385, 500. New Synonymy.

Type localities.—Of *H. lituratus,* St. Thomas (holotype in ZMHB).

Of *H. pumilio,* St. Thomas, here corrected to St. John (see below) (syntypes in ZMHB).

Of *T. cithara,* St. Croix (holotype in NMNH).

Distribution.—Puerto Rico, St. Thomas, St. John, St. Croix, Dominica, Venezuela? [The source of Zaitzev's (1910: 59) citation of this species from Venezuela is unknown to us, and needs substantiation.]

Remarks.—The holotype of *H. lituratus* in the ZMHB is labeled as follows: "male symbol; TYPE [on pink paper]; Hist. coll. Nr./ 9642; lituratus Kiesen./ det. Mamitza; Zool. Mus./ Berlin." The genitalia and abdomen are in a glycerin vial on the pin. It stands fourth in a series behind a lead label "lituratus/ Mor. Kies.*/ St. Jean/ St. Thom. Mor." Although the "TYPE" label was certainly added by a later worker, perhaps Mamitza, Kiesenwetter cited "eine Exemplar" (an example) in his description. The earlier worker may have had an indication, not now obvious, that the labeled specimen was indeed the holotype, and we recognize this specimen as such.

In his description of *H. pumilio,* Kiesenwetter cited two specimens labeled "nanus" by Moritz in the Berlin Museum. A series of 2 females was received from the Humboldt Museum bearing the label "(nanus)/ Moritz/ nomen mutablum/ St. Jean Moritz." No other specimens were found. It seems that the St. Thomas in Kiesenwetter's description was a mistake for St. John, since the names look similar at a glance in the formal script in which the labels were written. Thus the type locality of *H. pumilio* is corrected to St. John. Though the syntypes are females, the synonymy of *pumilio* with *lituratus* is reasonably certain since the species of West Indian *Tropicus* can be distinguished by color pattern. The *H. pumilio* types are typical of *lituratus* in color pattern. Although we consider these specimens the true syntypes, we will not designate a lectotype at this time, leaving this for a revisor in case Thomian specimens are eventually found.

Pacheco's *T. cithara* was described from a single specimen from St. Croix in the NMNH. The genitalia and prostheca of the holotype and a topotypic specimen (MAIC) were compared by Dr. J. M. Kingsolver and found to be conspecific. This specimen was then compared to the holotype of *H. lituratus,* and their synonymy confirmed.

To Pacheco's description (based on a unique male) we would like to add the following notes on variation: the development of the dorsal projection of the

mandible is variable in size and to a lesser degree, shape. It is always acute at the tip, but can be quite small. The females agree with the male in size and color pattern, differing mainly in the smaller mandible that lacks the dorsal projection.

Material examined (in addition to the type series from St. Thomas, St. John, and St. Croix).—Puerto Rico: 1 ♂—Moritz (ZMHB). St. Croix: 1 ♂—H. A. Beatty (MCZC). 43 (17 ♀, 26 ♂—Golden Grove, various dates from 21 Jan 1980 to 21 May 1981, at U.V. light, D. F. Keaveny colr., 1 ♂ Upper Love, 20 Jan 1980, at U.V. light, D. F. Keaveny (CVIX, 2 ♂, 1 ♀; JBSC, 2 ♂, 2 ♀; MAIC, 12 ♂, 9 ♀; MZHB, 1 ♂, 1 ♀; NMNH, 2 ♂, 1 ♀; OSUC, 2 ♂, 1 ♀; RSMC, 2 ♂, 1 ♀; UCDC, 2 ♂, 1 ♀). Dominica: 2 ♂—W. Cabrit, 3 Mar 1964, D. F. Bray, at light (NMNH).

Tropicus bilineatus (Chevrolat) New Combination

Figs. 1–3

Heterocerus bilineatus Chevrolat 1864:407. Zaitzev 1910:55. Leng and Mutchler 1914: 424. Blackwelder 1944: 270.

Diagnosis.—Body, antennae, and legs yellowish, pronotum with a brown longitudinal median stripe, broadened apically and basally; scutellum brown; elytra with suture narrowly brown and usually with a cuniform brown macula on disk, extending from base for ⅔ length. Aedeagus as in Figs. 1 and 2. Male mandible and prostheca as in Fig. 3. The female mandible lacks a dorsal projection. Length 2.5–3.0 mm, width 0.9–1.0 mm.

Type locality.—Cuba, type in Gundlach collection, Habana.

Distribution.—Cuba.

Remarks.—Although we have not seen Chevrolat's type, the topotypic specimens at hand fit his description, and the color pattern is quite distinctive.

The width of the pronotal stripe is variable, ranging from indistinct to ⅕ width of the pronotum. The size of the dorsal process of the male mandible is also variable. In some specimens the elytral macula is virtually absent. These light-colored specimens may be slightly teneral.

T. bilineatus will key to *T. insidiosus* in Pacheco's key (1964: 104). It may be distinguished from *T. insidiosus* by the color pattern and the shape of the aedeagus.

Material examined.—Cuba: 8 ♂, 8 ♀—Pinar de Rio, Soroa, 28 April 1983, P. J. Spangler, blacklight; 1 ♂—ibid, 27–29 April 1983, P. J. Spangler and I. Fernandez-G. (6 Habana, 6 NMNH, 3 MAIC, 2 JBSC).

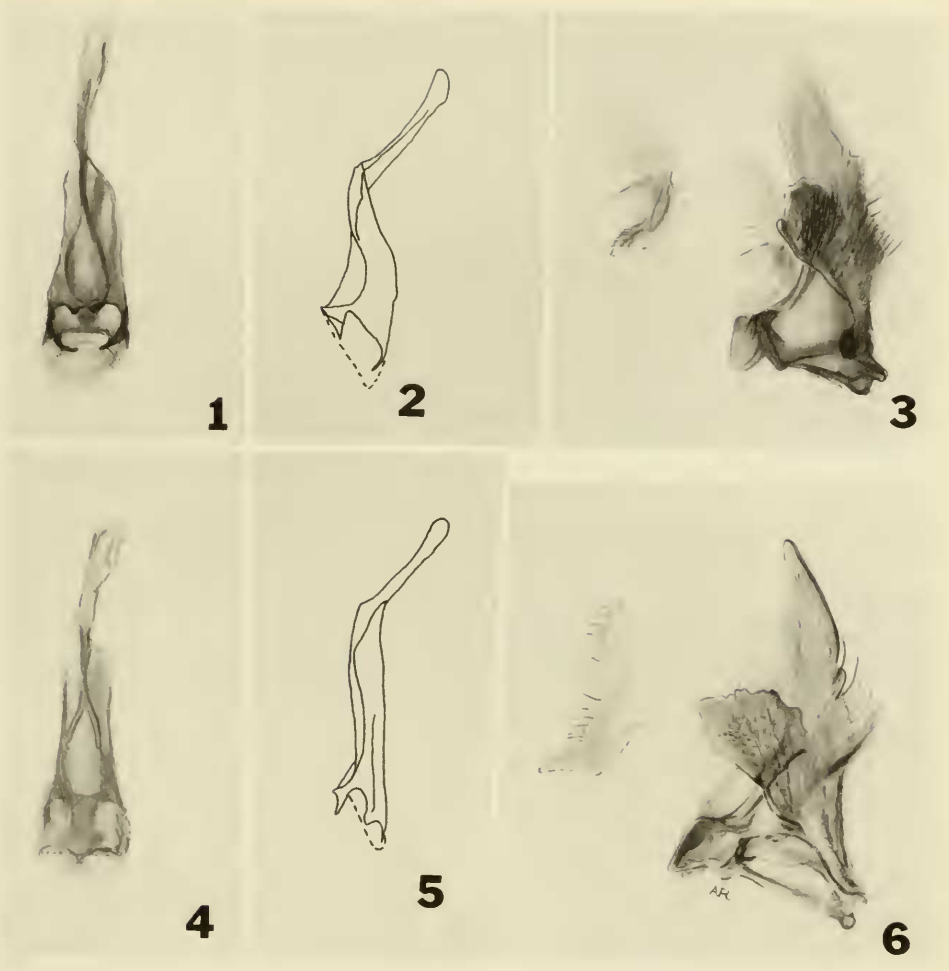
Tropicus ladonnae Ivie and Stribling, New Species

Figs. 4–6

Male.—Length 2.0–2.5 mm, width at humeral angles 0.8–1.0 mm. Mandible varying from short to long, with a dorsal projection of variable size, major male as in Fig. 6; prostheca as in Fig. 6. Head and pronotum dark reddish-brown; pronotum finely granulate. Elytron yellowish to clear brown, suture very narrowly dark; a broad dark macula starting at suture behind scutellum and surrounding disk rejoining suture behind, often extending along suture to apex; covered with regularly-spaced setae. Ninth abdominal sternite evenly sclerotized throughout, posterior arms widened and scoop-shaped, anterior arm curved and without sclerotized apodeme. Aedeagus as in Figs. 4 and 5.

Female.—Differs from male in having smaller mandibles which lack a dorsal projection.

Types.—HOLOTYPE ♂ (in USNM). Trinidad, West Indies; Espagnole River



Figs. 1–6. 1–3, *Tropicus bilineatus* Chevrolat. 4–6, *Tropicus ladonnae* Ivie and Stribling. 1, 4, Aedeagus (dorsal). 2, 5, Aedeagus (lateral). 3, 6, Male mandible and prostheca.

and Princess Margaret Highway; 07 January 1979; M. A. & L. L. Ivie, colrs. 900 PARATYPES (same data as holotype) in AMNH, BMNH, CIAN, CASC, CNCI, FMNH, ISNB, JBSC, MAIC, MCZC, MNHP, NMNH, OSUC, RSMC, SMNH, UCDC, UWIT, ZILC, ZMHB, ZMUK, ZUSP.

Derivation of specific name.—After LaDonna Lynn Clark-Ivie for her efforts in collecting the type-series as well as her many other contributions to the senior author's entomological activities.

Remarks.—*T. ladonnae* will key to *T. insidiosus* in Pacheco's key (1964: 104). The new species can be distinguished from *T. insidiosus* by the trilobed apex of the aedeagus (Fig. 4) as well as the strong dorsal projection of the aedeagus (as seen from lateral view) (Fig. 5).

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